SECTION 10 C

Brakes

Drum-Brakes

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10C.1 SPECIFICATION

Diameter	:	14 inch (355.6 mm).
Width	:	2 inch (50.8 mm).
Operation	:	Rods and levers
Parking brake	:	Rod operated on both brakes independent of the foot brake (Pendant pedal)
Brake pedal free travel	:	1 inch (25 mm).
Brake shoe concavity maximum	:	0.004 inch (0.1 mm).

Bolt torques

Brake shoe anchor pins	:	148 lbf. ft.(200 Nm).
Rear wheel nuts	:	200 lbf.ft.(271 Nm).

10C.2 GENERAL SPECIFICATIONS

General description double action drum brakes

The following general description applies to tractors fitted with double acting, floating cam type, drum brakes which operate on the rear wheels only. They are internally expanding 14 X 2 inch (355.6 X 50.8 mm) Drum Brakes. The shoes are drilled to receive riveted linings in service

Each brake consists of a back plate on which is mounted the double anchor pin assembly securing one end of each shoe. The other end of each shoe fits into slots in the adjuster assy., and is held in position by a spring.

Between the shoe webs at the anchor pin end is the operating cam shaft which is connected by a linkage to the pedal. A shoe to anchor the pin spring is connected between the anchor pin and shoe web of each shoe. The shoes are kept square in relation to the back plate by steady post and the shoe hold down pins. The back plate is secured to the rear axle housing and is enclosed within a drum which is fitted to the rear axle shaft assy.

General Description

The brake on the tractor is operated by two independently operated Pendant pedals located on the right hand side.To assist turning the right pedal operates the right hand brake and the left pedal operates the left hand brake,. For highway use, the brakes must be used together by operating an interlocking latch which joints the two pedals. A parking brake is provided which operates both brakes together independent of the foot brakes mechanically through a rod control.

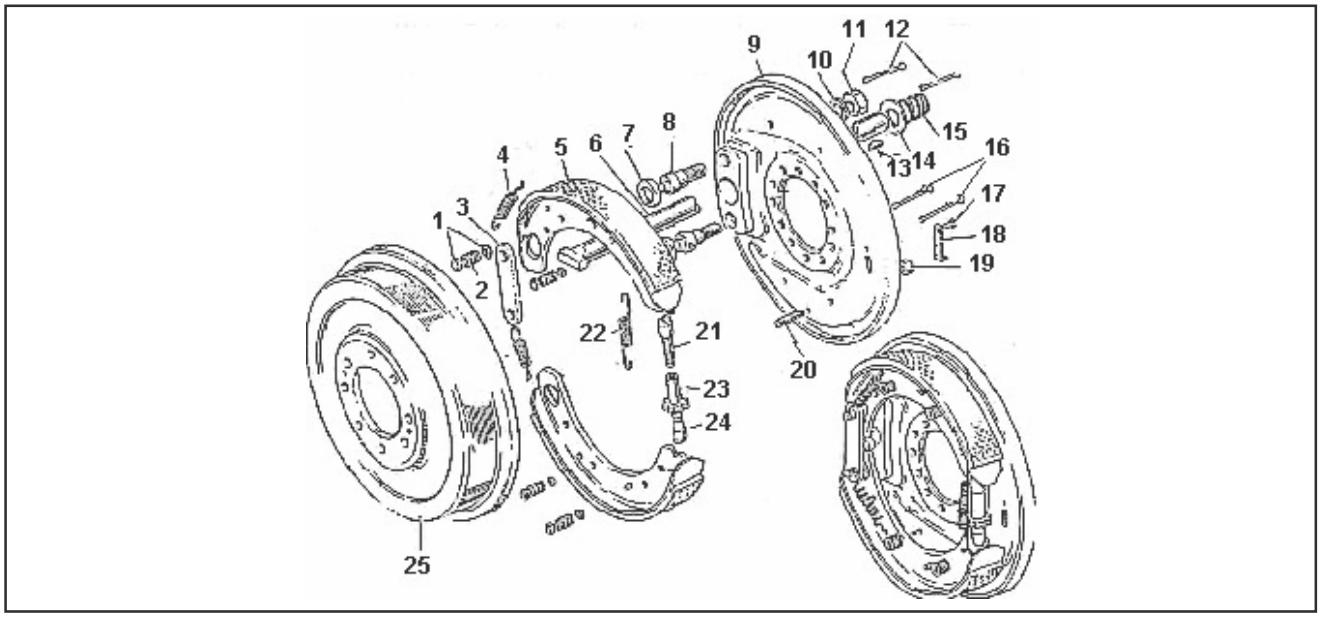

Fig 1

1&2.	Brake Securing Spring and Caps	14.	Cam washer and spring
3.	Anchor Pin Plate	15.	Spring cam shaft
4.	Spring shoe to anchor pin plate	17.	Cover plate Pivot
5.	Brake shoe	18.	Cover plate
6.	Actuating cam	19.	Steady Post nut
7.	Anchor pin plate spacer	20.	Steady Post
8.	Anchor pin	21.	Adjuster
9.	Back plate	22.	Spring Adjuster
10 & 11.	Anchor pin spring washer and nut	23.	Adjuster Tappet
12 &16.	Pin brake securing spring	24.	Pivot Adjuster
13.	Woodruff Key	25.	Brake drum

10C.3 DRUM BRAKE

Adjustment :

Procedure

1. Chock the front wheels and jack the tractor rear wheels clear of the ground, release the parking brake
2. Slacken the parking brake adjuster.
3. Unlatch the brake pedals.
4. Move back the cover plate (Item 1 in Fig. 2) on the brake back plate.
5. Insert a screw driver thro' the slot in the back plate and lever the adjuster towards the front of the tractor until the wheel is locked. (Item 1 in Fig. 3)
6. Slacken the adjuster until the wheels rotates freely.
7. Repeat procedures 4 to 6 for the other wheel brake.
8. Readjust the parking brake adjuster so that the parking brake is effective at approximately the third click.
9. Latch the two brake pedals together.
10. Road test the tractor, slacken the adjuster on the side to which the tractor pulls.

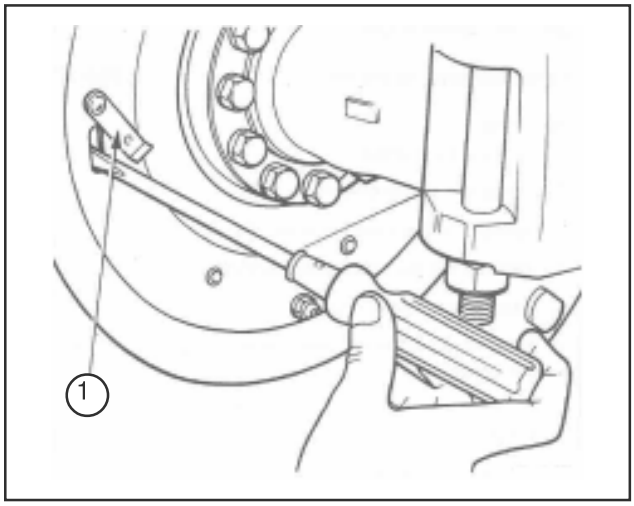

Fig. 2

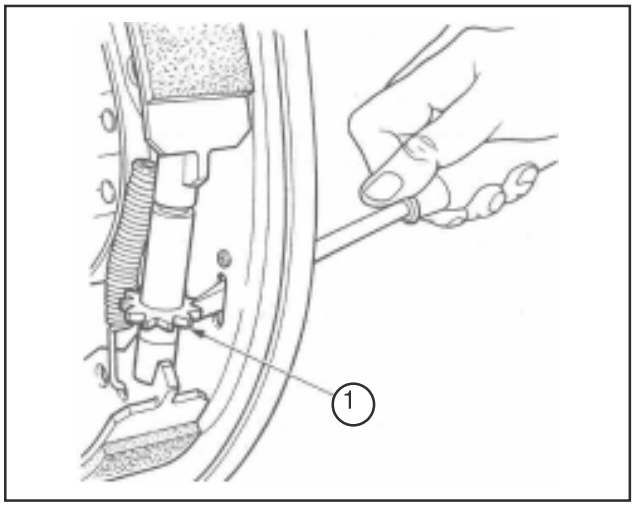

Fig. 3

10C.4 DRUM-BRAKE REMOVAL

Removal and Refitment :

Removal :

1. Jack up the tractor
2. Remove the rear wheel.
3,. Slacken off the brake adjustment. (Item 23 in Fig. 4).
4. Remove the brake drum (Item 25 in Fig. 4)
5. Release the brake rods from the brake cam shaft lever.
6. Remove the shoe hold down spring assys. Grip the pin with a pair of pliers.(Item 1, 2 & 12 in Fig. 4)

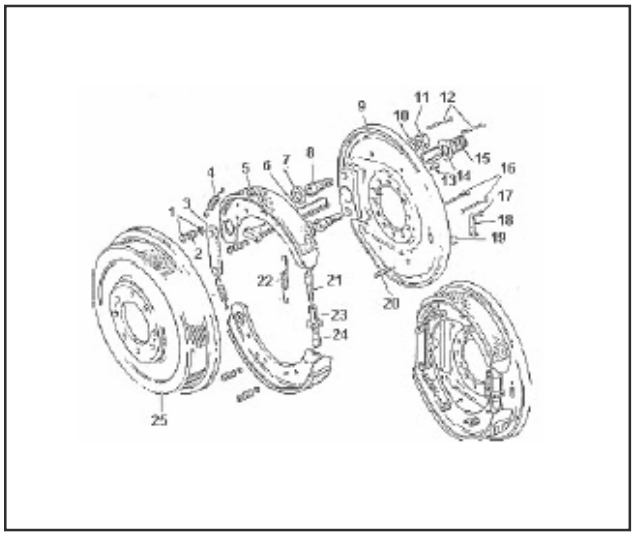

Fig. 4

7. Simultaneously press and turn the Dished washer until released, then remove the two washers and the spring. (Item 1 & 2 in Fig. 4). Repeat this procedure for the 4 sets of fixings

8. Force apart the brake shoes (Item 5 in Fig. 4) at the adjuster end to allow the adjuster to drop out of position.

9. Remove the spring. (Item 22 in Fig. 4).

10. Remove the two springs by levering with a screw driver between the springs and the anchor plate. (Item 4 in Fig. 4).

11. Remove the anchor plate. (Item 3 in Fig. 4).

12. Lift off the two brake shoes. (Item 5 in Fig. 4).

13. Remove the two spacer washers. (Item 7 in Fig. 4).

14. Clean of all parts. Ensure that the adjuster threads are free to rotate.

Refitment

1. Lightly smear both ends of the new brake shoes and the flat end of the cam shaft with white brake grease.

2. For refitment follow the reverse procedures of removal and except

   (a) To facilitate refitment of the spring, use a length of wire, looped around the hook of the spring and pull the spring over the anchor pin.

   (b) Ensure that the adjuster is fitted with the star wheel adjacent to the adjusting hole in the back plate.

3. Slacken the steady post nuts. (Item 19 in Fig. 4).

4. Screw the steady post well into the back plate. (Item 20 in Fig. 4).

5. Turn the adjuster to the fully off position. (Item 23 in Fig. 4).

6. Refit the brake drum. (Item 25 in Fig. 4).

7. Slacken the anchor pin nuts. (Item 11 in Fig. 4).

8. Using the adjuster, expand the brake shoes, then tap the anchor pin nuts to ensure that the shoes are seating correctly.

9. Repeat this procedure until the adjuster can not be tightened any further.

10. Coat the threads of the anchor pins with grease and tighten to a torque of 148 lbf.ft (200 Nm) .

11. Slacken off the adjuster and remove the brake drum.

12. Screw in the steady posts until they touch the brake shoe webs. Then secure the post with nuts.

13. Re fit the brake drum.

14. Reconnect the brake rods.

15. Refit the rear wheel and tighten the nuts progressively and evenly to a torque of 200 lbf.ft. (271 Nm).

16. Adjust and balance the brakes.

NOTE : *Sponginess and lack of braking power even after adjusting brakes may indicate that brake lining are excessively or unevenly worn or perhaps contaminated by oil or grease. Brakes squeal may indicate that the linings are unevenly worn or the rivet heads are protruding above the lining face. The brake shoes and lining should be examined when these symptoms become evident and should be changed. If the lining is worn to less than 1/3 of its original thickness at any one point (less than 3/32 inch – 2.38 mm). Or if the rivet heads are less than 1/10 inch – 1.5 mm below the lining face. Different lining materials must not be used as it will be found difficult to achieve satisfactory braking power or balance.*

10C.5 DRUM BRAKE

Overhaul

Disassembly

1. Remove the brake.
2. Remove the axle shaft and brake assy.
3. Unscrew the screw in the cam shaft lever
4. Remove the cam shaft lever and woodruff key (Item 3 in Fig. 7).
5. Slide the washer and conical spring off the cam shaft. (Item 5 in Fig. 7).
6. Remove the cam shaft. (Item 1 in Fig. 7).
7. Remove the anchor pins, spring washers and nuts. (Item 2 & 4 in Fig. 7).
8. Remove the steady post and nut(Item 6 in Fig. 7).

Examination : Clean and inspect all components, any showing signs of excessive wear or damage must be replaced. Ensure that all threads are cleaned and free to turn, coat with white brake grease.

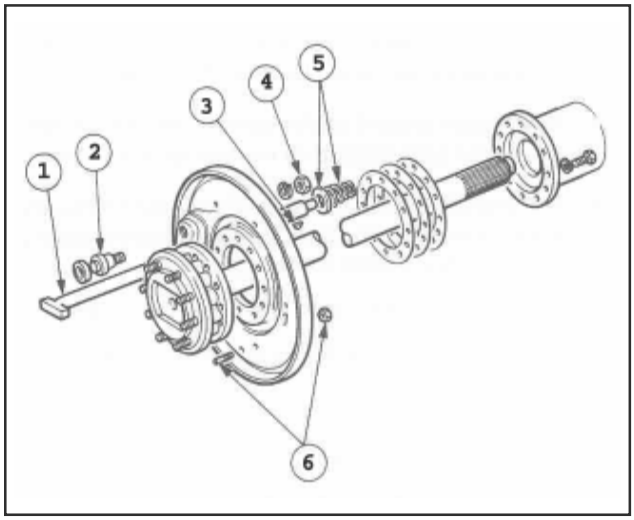

Fig. 7

Reassembly

1. For re-assembly follow the reverse procedures of dis-assembly except
   (a) Refit the washer first, then the conical spring (large diameter towards the back plate). Half compress the spring to load the cam shaft.
   (b) Position the brake lever on the cam shaft with 0.236 inch (6 mm) clearance from the axle housing. Tighten the screw.
   (c) Refit the anchor pins, spring washers and nuts but do not tighten until resetting the brakes.
   (d) Refit the steady post and nuts but do not adjust and tighten until the brakes are set.
2. Adjust and balance the brakes.

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